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THE BELOVED PHYSICIAN,

A MEMOIR

OF THE LATE

DR. JOSEPH BULLAR,

BY

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TO
THE PRESIDENT, VICE-PRESIDENT, AND MEMBERS
OF THE
SOUTHAMPTON MEDICAL SOCIETY,
THIS MEMOIR, WRITTEN AND PUBLISHED AT THEIR REQUEST,
IS, WITH MUCH RESPECT, INSCRIBED BY
THE AUTHOR.

MILLBROOK, SOUTHAMPTON,
8th June, 1869.

"Men of the most elevated powers of thought have applied themselves to the minute observation of things, and have tested their ideas by laborious experiments. They have thus attained to the knowledge of laws of the highest kind, by not neglecting the lowliest means. . . . Christ washed his disciples' feet, and told them that he who would be the highest amongst them must be their slave."—*Evening Thoughts*, p. 83.



A MEMOIR.

Who shall take up his mantle? We who have seen him just parted from us may stand amazed at the sudden loss: but who shall take up his mantle? Who is there, among those he has left behind him, strong enough to smite asunder the deep waters, and to walk, secure in the possession of intellectual power, through the mighty river of public opinion, until he reach the land where he will be welcomed with the homage and the confidence of all, as the right and worthy successor, on whom the spirit of the departed one still rests? This is the question that comes home to his professional brethren more seriously than any other. No sooner is his body committed to the grave than his fellow laborers, with the true instinct of self defence, turn their anxious eyes on one another in the vain endeavour to find a solution of the problem that is equally oppressing all. Who shall now help them in their need? The friend, the counsellor, the patriot in the Republic of Medicine, the man to be trusted with the secrets of their knowledge and their ignorance, the guide, the chief, the example is taken away. This is the first, and, to his brethren, the great personal consideration in estimating their loss. The outside world, and the select circle within which the subject of this memoir passed his inner life, will view, independently of each other—both with their own sorrow—the departure of this the latest “pilgrim of eternity.” The more we are convinced of his christian virtues, of the pure discipline of his soul, of his conscientious devotion to his Master’s service, the less able are we to fathom the grief of

those that loved him best on earth. The prominent trouble in the minds of men who worked side by side with him is their difficulty to replace him.

"Dream not that the amorous deep
Will yet restore him to the vital air,
Death feeds on his mute voice, and laughs at our despair."*

Let us turn now to a less sombre page of our theme, to realize if we can the results of a forty years' labour. Some writers of a slender antiquarian aim have considered it a great mercy that in spite of all the ransacking of old documents, and notwithstanding all the ferreting that has gone on, we yet know but little, comparatively speaking, of the life of Shakespeare; in all probability there was very little to know of the common every day events of the poet's life. The issues of his intellectual existence, which, after all, are the only things worth knowing, will be found in his works. The man himself lives, and lives for ever, in the imperishable stores of his poetry. They who are familiar with the writings of Shakespeare, and have had not only the taste to see the beauties, but the industry to penetrate the full meaning of his philosophy, are as well acquainted with his person as if they had been admitted behind the scenes of the Blackfriars and Globe Theatres. There is this difference between mind and matter at the end of life. To the surviving and sorrowing friends, the commonplace man when he dies is gone for ever; the intellectual man, on the contrary, lives on in the result of his brain work. It is, to use a medical term, but a metastasis, a transfer from the bodily presence of the dead to the memory of the living; the essence of mind—spirit is absorbed and assimilated by the living from the rich pabulum bequeathed to them by the dead. Life is perpetuated, and if this be true of the historical character, how much more does the appropriation of the bequest come home to us when we have known the person of the testator face to face by the mid-day light of lasting friendship.

So long as the present generation of surgeons in this county shall exist the name of Joseph Bullar will be a household word among them, and the mark his teaching has made on the charac-

* Adonais—*Shelley*.

ter and opinions of each will not be obliterated in life, while the enduring monument of his love towards his fellow man will probably last until his country shall cease to be numbered among the nations of the earth.

Joseph Bullar was born in Bugle Street, Southampton, on the 21st of July, 1808. He received the early part of his education at home, under the eye and tuition of his father, Mr. John Bullar, who at that time had acquired considerable reputation as a school-master throughout the South and West of England; indeed it may be said that Joseph owed much of that breadth and independence of view which distinguished him in after life to the early training of a father, who was himself a man of large mind, scholarlike in his tastes and pursuits, charitable in his principles, and free from all sectarian narrowness. Joseph used to tell a story, which is so characteristic of his father's entire freedom from all common prejudices or stereotyped rules of propriety, that it will well bear repeating. On one occasion the three elder sons, when they were almost, if not quite, young men, were suddenly interrupted by the father whilst busily engaged in a game at marbles. The culprits, naturally abashed at being caught in the pursuit of an amusement so childish, quickly broke up their entertainment and were about to decamp—"Stay, boys," said the father, "Never be ashamed of that which made the sunshine of your youth; be young as long as you may, and play marbles at eighty—if you can."

On the First of September, 1824, Joseph Bullar began his professional life as a pupil of Mr. Thomas Salter, a surgeon, at Poole, in Dorsetshire, and was with him for four years. Although the old pupil system has now become nearly obsolete, many of the ablest general practitioners in the provinces having regarded it in their own cases as an utter waste of time, Bullar was accustomed to look back to this period of his career with more favour. He seemed to himself to have then formed early habits of work and methodical ways, which were of great service to him in after life. But in point of fact he was a student from his infancy, and the rapid laziness of a dull country town could never have tempted him to forsake work for idleness.

In October, 1828, Joseph Bullar, went to London, to "walk the Hospitals," as it was then called. He entered himself as a student at St. Bartholomew's, and soon made himself conspicuous in the class by taking rank among the best men. The days of Abernethy were at that time drawing to a close, he never lectured after the year 1829. But the impression left on Bullar's mind of the old surgeon's teaching powers, though he only heard him deliver one or two courses, were well expressed by the words—"Abernethy always taught us principles."

It will not be out of place to speak here of Joseph Bullar's person. They who only remember him within the last twenty years, since his deafness, which, while it took from the freshness of his features, seemed to raise

"His introverted spirit, and bestow
Upon his life an outward dignity
Which all acknowledged,"

would not have known him in his younger days. Joseph Bullar was very handsome at the age of two-and-twenty. With a large high and broad forehead, straight nose, and a chiseled mouth, expressive of firmness and thought, his countenance was altogether classical, and forcibly reminded one of the early busts of the First Napoleon. His figure was slight and well put together. His bearing that of a quiet gentleman, pensive and reserved towards strangers; he was fastidious in his choice of acquaintances. While he was yet young he made fast friends of some of the best men of his time.

In October, 1829, he became a dresser under Mr. (afterwards Sir William) Lawrence, an office which he held twelve months. Lawrence entertained a very high opinion of Joseph Bullar, and as they corresponded during Lawrence's lifetime, which only closed in the year 1867, Bullar had ample opportunities of studying the character and opinions of that remarkable man. He read a paper before the Medical Society of Southampton, on Nov. 5, 1867, entitled "Recollections of Sir William Lawrence," in which he says—"Lawrence was a strong man, with a clear-headed consciousness of his predominant ability, and such men are apt to treat the accusations of the world with silence." It had been a favorite object in Joseph Bullar's life to try and

penetrate the veil that seemed to him to obscure, if not to entirely efface, certain noble traits in the character of Lawrence. This silence of which he then spoke, when fully understood, explained the mystery. The "old coil" * touching the relation of mind to brain, was one which Lawrence never deigned completely to answer; and it may be fairly inferred, although there are no sufficient data to positively verify the fact, that Joseph Bullar was the instrument by which the great modern surgeon was made to interpret himself. On Bullar's authority it may be stated that Lawrence was in the habit of laying a Bible on his table on all suitable occasions, and when pressed on the subject of mind, brain, and soul, would say—"The immortality of the soul cannot be proved by the revelations of the dissecting room; you may demonstrate the sentient physical faculty to be dependent on a healthy condition of brain—but the evidence and proof of the soul's existence are to be found in *that* book (pointing to the Bible), and in *that* book only."

Having completed his time at St. Bartholomew's Hospital, on the 6th November, 1830, Bullar went to Paris, where he studied medicine and surgery, under Louis, Dupuytren, Andral, Biett, and others, and remained there until 1831. There is no evidence that the "Types of the French Nervous Temperament," given in his own work, "The Second Series of Thoughts," were closely studied at that time: indeed the life of Tonnellé, one of the illustrations of that temperament, only began in 1831. It is curious however, to observe, as showing his artistic skill, that at a much later date when his judgment was sedate, his temper subdued, and the impulsive faculty of his mind comparatively in abeyance, Bullar not only threw off those French sketches of character, with a freedom that peculiarly belongs to the practised hand, but the vivacity and light hearted elasticity of the French literary style are conspicuous throughout the chapter.

In November, 1831, Joseph Bullar went to Dublin to study medicine at the University there, and in 1832 and 1833 we find him at Edinburgh. There he formed intimate and lasting friendships with Professors Alison, Christison, and Graham, and

* Much Ado About Nothing.

corresponded with these distinguished men during his life. July 12th, 1833, he took his M.D. degree, in the University of Edinburgh, and soon after returned to Southampton, where he commenced practice on the 24th of August, 1833.

In consequence of the prevalence of Influenza, in the year 1836, he undertook, in addition to his own engagements, the work of several of his medical brethren at Southampton who were disabled. The fatigue of this was too much for him, and in March, 1837, he had an attack of paralysis, from the effects of which (in his legs) he suffered more or less all his life.

On the 5th of March, 1837, his brother William came to him from London, to help him in his illness, and they have continued together ever since. Joseph's health did not improve in a satisfactory manner during that and the greater part of the following year, and accordingly on the 12th of November, 1838, having been recommended to try a change of climate, he left England, accompanied by his brother Henry, for St. Michael's, one of the Azore Islands, and remained in the Azores until the autumn of the following year, returning to England on the 22nd August, 1839.

In the month of September, 1841, his deafness came on, and in the autumn of 1842, he went to Gräfenberg, to try the effect on his general health, of the "water cure," under Presnitz. He returned to England somewhat benefited, in December, 1842, and in April, 1843, he again left his home for Madeira. He came back in the course of that year and continued his practice at Southampton with his brother.

The early struggles of the Royal South Hants Infirmary about this time occupied a good deal of Joseph Bullar's earnest attention. In 1838 a Casualty Ward had been established at a small house in South Front, Kingsland Place, and not long after this the Infirmary was opened for the reception of patients in St. Mary's Street. It was not, however, until the 10th of October, 1843, that the foundation stone of the Royal South Hants Infirmary was laid on its present site. In the summer of 1844, the building according to the first plans was completed, and in that year it was opened.

It is at all times an invidious and a distasteful task to appear to

weigh the merits of others by recording the amount of good which any one contributor to a great work has bestowed; nevertheless, (in all reverence be it spoken), if the exhaustive rule by which Vincentius Lirinensis proposed to test Christian truth be applied within narrow limits to the case under consideration, "*quod semper, quod ubique, quod ab omnibus traditum est*," there need be no hesitation in declaring that Joseph Bullar was altogether one of the greatest benefactors which the Infirmary has yet numbered among its supporters. It must be remembered that he not only gave money, and labour, and time, in gigantic proportions. He gave brains and character, reputation and authority, to the objects, institution, staff, and executive of the charity. He was the genius of the place, filling the very air around with the substantial stamp of his own individuality. His was no spasmodic outburst of enthusiasm in a cause, to be abandoned as soon as the novelty of the subject wore off, nor was it a task he had set himself to perform for a given time, to be thrown up when other weightier matters pressed upon him. He bore the burthen of his life stoutly, and maintained his hold on the great work he had set himself to achieve until within a few months of his death. It is within the recollection of everyone that his brother William went hand in hand with Joseph in all that related to the early history of the Infirmary, and it will at once be seen that the biographer is approaching delicate ground when he seems to give a large amount of credit to one in the accomplishment of an undertaking that was equally shared by the other. There is, however, less reason to be fastidious in treating this part of the subject, since in speaking of Dr. William Bullar it will be necessary at this time only to refer to the facts that have now become matter of history, and to deal exclusively with public documents. What has been said of Joseph Bullar in regard to the influence he exercised over the destinies of the Infirmary, will apply equally to his brother William. The ruling power may have been equally manifest in both—the division of labour perhaps equal—but each had his own way of action in carrying out the end proposed; and it has been most fortunate for the interests of the Hospital that such was the case. The energies of two such men put forth, the one

in creative, the other in administrative strength of no mean order; have secured a comprehensive success that probably could have been brought about by no other means. The world will value the services of these brothers according to its capability of understanding and weighing what each contributed to the result; but without touching the question as to what each was relatively worth to the Institution the established fact remains the same, that the Hospital would not have attained its present efficiency without the labour which the distinct ability of both brothers brought to bear upon it.

In the year 1856 a very handsome testimonial was presented to the Bullars, ostensibly as a recognition of their eminent services in the cause of medical charity. In reality it was more than this, it was a great public resolution, an authoritative demand to enfranchise the characters of two men that had been assailed, and their acts to some extent fettered by those who had waged war against them under the banner of private interests and personal passions. The testimonial was presented to Joseph and William Bullar in July, 1856, by a deputation consisting of Colonel Eyre Crabbe, Archdeacon Wigram, the Rev. Thomas Adkins, and Captain Engledeue. Two Silver Salvers, worth 100 guineas each, and a purse of 300 Sovereigns, comprised the testimonial. The inscription on the Salvers was in these words:—

"To Joseph Bullar, Esq., M.D., and William Bullar, Esq., M.D., from their friends and fellow-townsmen, Two Salvers, with 300 Sovereigns, are presented in testimony of the eminent professional ability with which they have aided the Royal South Hants Infirmary, since its formation in 1844, Dr. William Bullar having gratuitously fulfilled the arduous duties of Secretary during the whole of that period; and also of the genuine benevolence and Christian disinterestedness with which at all times, and among all classes, these attached brothers have laboured to promote the charities of social life, and advance the temporal and spiritual interests of this their native town. 1856."

On the 29th of June, 1856, Miss Anne Bullar, the only sister of Joseph and William, died, and in consequence of this recent event the presentation of the testimonial was made in private, and acknowledged in the following letter:—

Southampton, July 31st, 1856.

GENTLEMEN,

As you have so considerably made this a private instead of a public presentation, you will add to the obligations with which your kindness has already overwhelmed us if we may be permitted to express our sense of it in a few written words.

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In accepting with the heartiest and profoundest gratitude these splendid testimonials, we shrink from accepting with them such an estimate of our services or ourselves as the generous kindness of the subscribers has been so good as to mark by their inscription.

It would be heartless indeed on our parts even to seem indifferent to such indulgent generosity; but we may well despair of filling up in future life an outline, indicating rather what we ought to be than what we are or have been.

It would also be ungenerous in us to let pass this occasion of testifying our high sense from personal knowledge, ever friendly intercourse, and constant observation, of the valuable services and unwearied zeal of the gentlemen of our profession, who have, with ourselves, watched over the interests of the Infirmary since its commencement to the present day, and who have so well seconded the efforts of those to whose generosity and laborious exertions the town is indebted for the existence of the present Hospital.

To each and to all of the contributors to these valuable memorials, valuable for their intrinsic worth, but invaluable for the kindness of which they are the evidence, we now tender our heartfelt thanks.

We are, Gentlemen,
Yours very faithfully and obliged,
J. & W. BULLAR.

In the following month of August, 1856, a special meeting of the Governors of the Royal South Hants Infirmary was held, to take into consideration a proposal to be submitted to them by the Managing Committee for making some important additions to the building; the funds for which purpose, as will presently appear, had been already provided by some of the most earnest and liberal supporters of the Institution. At this meeting the Chairman, Colonel Eyre Crabbe, explained the intentions of the Drs. Bullar, and their wish to erect a west wing to the Infirmary. The plans, prepared by Mr. Critchlow, the Architect, were submitted to the meeting, and explained by that gentleman, after which Archdeacon Wigram drew up a resolution in the following words, which was laid before the Governors and adopted:—

“That this meeting is deeply impressed with the liberality of Drs. Joseph and William Bullar, and the interest they have manifested for the improvement and extended influence of the South Hants Infirmary, as communicated by the Chairman, Colonel Eyre Crabbe, in the proposition for adding a west wing as a memorial to a lamented member of their family, and return to those gentlemen their most cordial thanks for this fresh evidence of their desire to benefit the inhabitants of the Southern side of the county, and especially those of their native town, and that agreeably to their suggestion the following gentlemen be appointed on the Committee:—Colonel Eyre Crabbe, Capt. Engleddue, Messrs. Thompson, H. Buchan, and Dr. Bullar.”

Thus sprung into existence the present west wing of the Royal South Hants Infirmary, which essentially corresponds to that last erected on the east.

In March, 1860, Joseph Bullar retired altogether from general practice, gave up his residence in Prospect Place, retaining only a consulting room there, and went to live at Bassett Wood. The life at Bassett was one of much real enjoyment to Joseph Bullar, although he was not without many cares and anxieties, arising partly from his own responsibilities and partly from fears (often expressed to friends) touching the health of his brother William, who had gone abroad for the benefit of a constitution that had been severely taxed by hard work. There was not only the fresh air of Bassett and its beautiful scenery, surrounded by tender home paths, and the majesty of distance "with ærial softness clad," that found a mirror in his mind; there was to him a mysterious poetry about the place. It was the Egeria—the sacred grove of his affections; where, after the turmoil of the busy day, he delighted to repose in "the full enjoyment of nature," contemplating "the wondrous unity of variety" that sparkles for ever in that happy valley. He had—

"Fond no mortal resting place so fair
As that ideal breast"—

Nor will the commonplace observer of natural beauty, who can discover no spiritual meaning in the scene, fail, as he walks by the lower lake, to pause while—

"With a gentle leap
The rill runs o'er, and round fern, flowers and ivy creep
Fantastically tangled; the green hills
Are clothed with early blossoms. Through the grass
The quick eyed lizard rustles, and the bills
Of Summer birds sing welcome as ye pass.
Flowers fresh in hue, and many in their class,
Implore the panning step, and with their dyes
Dance in the soft breeze in a fairy mass.
The sweetness of the violet's deep blue eyes
Kiss'd by the breath of heaven, seems colour'd by its skies.
Here didst thou dwell, in this enchanted cover
Egeria!" *

After giving up general practice, in which he had engaged for many years, Bullar had more time at his disposal to cultivate and enjoy the friendship of men in his own profession who were within reach of him. His love too of art, and the soundness of his judgment as an art critic, made him always a welcome visitor in

* *Childe Harold*, Canto iv.

the studios of professional and dilettanti painters. Nor was it among the minnows only that he sought congenial sympathy; the Tritons in art and literature were among his friends and acquaintances at this time. Thackeray, Holman Hunt, Herschel, Wilkie Collins, are names that have already shed a lustre on the annals of their country. Joseph Bullar might well have taken his place by the side of such men. There is abundant proof among his early artistic and later literary remains that, had he given his mind wholly to the pursuits these men have so successfully cultivated, he would have shone by no means a minor star in that constellation of genius. Let the scholar read almost any one of the essays in the second series of thoughts—*The Tempter*, for example—and he will acknowledge there are flashes of imaginative light, close metaphor, and happy antithesis, such as are to be found only in the correct forms of a refined rhetoric.

Time and circumstances were now beginning to clip his natural wings. He had been compelled to learn the bitter lesson of bereavement, to relinquish much of what he loved on earth. Still his calm and well balanced mind did not permit him to drift into a senseless repining at the inevitable decrees of Providence. His elastic spirit rebounded from the dead earth, but his frame was fast undergoing a change from which there was no escape, and for which there was no remedy. After the death of his elder brother, John, in 1867, it was noticed by friends who came in contact with him, that Joseph Bullar was becoming an altered person, and that he had begun to look older and less buoyant than before. In November, 1868, he retired from the office of physician to the Infirmary, a post he had held since the year 1852, when he was appointed to succeed Dr. Steed. From the first institution of the Hospital, to 1852, he filled the office of surgeon.

It will not be uninteresting to know that so far back as Nov., 1866, Dr. Langstaff examined Joseph Bullar's pulse by the tracing of the Sphygmograph, which indicated a suspicion that he was suffering from aortic regurgitant disease. Dr. Langstaff informed him of what he believed to be the fact, when he rather expressed a doubt as to the reliability of the instrument, and its power of accurate demonstration. Six months after this, acute

symptoms of heart disease set in, and when he had recovered from the attack he acknowledged that he felt convinced the instrument was correct in the diagnosis of his case.

On March 30, 1868, at his own request, the Sphygmograph was again applied, when Dr. Langstaff expressed an opinion that he had "Some contraction of the aortic orifice, as well as regurgitation from insufficiency of the valves." Upon which he said "I have no doubt your instrument indicates correctly; I am now getting old, and must expect all my vessels to get into an abnormal condition."

Joseph Bullar died on the 18th of May, 1869, from disease of the heart, accelerated by nervous exhaustion. He was buried at North Stoneham, on the 25th of May. A very large assembly of medical friends from the town, the neighbourhood, and distant places, attended his funeral, to pay the last mute tribute of respect and love to the physician whom all confessed, and all delighted to honour as *facile princeps* among them.

The dial on that church might well say—

"Time flies; it is his melancholy task
To bring, and bear away, delusive hopes,
And reproduce the troubles he destroys."

"As a surgeon," writes Dr. Lake, who had worked for some years with him at the Infirmary, "he was *very* successful. He opposed the practice of excessive stimulation after severe accidents and injuries, which was the rage some years ago, discriminating between cases that require the help of wine and those that do not. As a physician he was very painstaking, attending carefully to details, and sometimes giving unusual weight to small points. It was interesting to see how greatly he had educated his powers of touch. Often and often, as House Surgeon, have I got him to examine the chest of a patient with obscure disease, and have been greatly struck with the accuracy of his diagnosis, and how perfectly he could distinguish the different states of the lung. His power of discrimination in lung diseases would often put to shame that of those who could hear."

As a practical physician Joseph Bullar's forte was in consultation, his extensive knowledge of theoretical medicine, the sound and scientific process (though not always a rapid one) by which

he separated the true grain of modern discovery from the ephemeral chaff of modern speculative thought; above all his human love and forbearance in the presence of weaker brethren who could never approach him in intelligence, admirably fitted him to be the friend and adviser of all in their time of need. If it be objected that occasionally he adopted theories which he again abandoned, it must be borne in mind that medicine is not like the higher faith, delivered once for all—it has a Catholicity of its own, which is for ever being developed by the march of scientific revelation—a march that is ultimately to be directed by the hand of observation and experiment. Bullar had a natural aptitude for observing and comparing phenomena, with a capacious memory that had received and retained a mass of facts and suggestive ideas which he seemed to keep always on hand for the benefit and use of the case before him. His quickness of perception enabled him at all times to fill in the outline that the ordinary practitioner had traced, and to supplement the plan of treatment already laid down by a series of provisional corrections or additions conformable to the requirements of the case in point.

Let no one suppose that to measure Joseph Bullar's literary labours by the amount of what he published in his own name would adequately represent the truth.

The moving power of his *soul* will be found in the *Evening Thoughts*, and in *The Second Series of Evening Thoughts*, while the active qualities of his *mind* and the way in which they have tended to influence medical opinion, can only be gathered by a perusal of the many anonymous papers he contributed to the periodicals of the day.

Joseph Bullar was a very intimate friend of the late Sir John Forbes, who conducted *The British and Foreign Medical Review* from the year 1836 to 1847, and during all that time Dr. Bullar helped to maintain the high character of *The Review* by frequent and able writing in its pages. At one time, also, he wrote many papers for the *Provincial* (afterwards the *British*) *Medical Journal*, and for other medical periodicals.

In 1841 he published, in conjunction with his brother Henry, *A Winter in the Azores*, a book full of amusing and instructive

descriptions. There is a passage in these clever volumes that, at the present time, when so much is said and written about the Turkish bath, well deserves to be remembered. It appears there is a natural process of Turkish bathing pursued at the hot alkaline baths in the valley of the Farnas, in St. Michael's Island, and that the corpulent natives, of their own accord, undergo the treatment; forcibly reminding the medical reader of the fact that physicians preached, and preached in vain, to their patients the principles of bathing, shampooing, and a strict diet, long before the Turks or Banting were heard of as advocates of a method of reduction. Bullar says "that men who, when they arrive at the Farnas, look like huge hills of flesh, after soaking an hour a day in the very hot water and encouraging dissolution and thaw for an hour or two afterwards by lying upon a board, covered with thick woollen cloaks, with towels wound round their heads and necks, return so slim as to be hardly recognised by their nearest friends—the baths using up their spare materials as a winter's starvation does those of a hibernating dormouse. As a remedy against obesity, these baths may be highly useful, for they are means likely to be employed, as they require no self-denial. Order a sensual man to take hard exercise, little sleep, and less food, and you are sure to be unattended to; but direct him to use a luxury, and he may, in following his old habits, take the advice."

In September, 1846, the British Association held its annual meeting at Southampton, on which occasion Sir John Herschel was a guest of Mr. Bullar, in Prospect-place. Joseph Bullar had prepared with great care and thought a paper which he proposed to read before the Association, "On the Identity of Certain Vital and Electro-magnetic Laws." The subject was subtle, abstruse, and, in some sense, hypothetical. He submitted an abstract of his theory to Herschel, who was much struck by the originality of the views propounded, and gave his opinion and advice in terms nearly as follows. So far as the narrator can remember Sir John Herschel's words were—"Of course you will not only read your paper, but print, and, if you like, publish it. Your theory may turn out to be worth nothing, but, at all events, it is very ingenious, and it is by no means improbable that you may become the

pioneer of future discoverers, who are destined hereafter to perceive and to demonstrate relations between those forces of a more intimate kind than we can at present trace." The paper was read on the 15th of September before the Physiological section of the association. Professor Owen occupied the President's chair. To give a detailed account of this paper would be beyond the scope of a biographical sketch. The primary object of the author was to show that the direction and formation of blood vessels and the capillary circulation through them, which is independent of the propulsive power of the heart, are in accordance with laws identical, in their direction and relation to each other, with those of the electro-magnetic force. The actual movements in this living process are invisible as it is one of growth; but the form produced is explicable on the hypothesis that the living force acts in accordance with the laws of a force the direction and selection of which have been ascertained. Faraday's experiments were quoted, as well as the discoveries of Senbeck, on the relation between heat and galvanism, shewing that the mother's heat is the source which supplies motive power to the embryo. The conclusion was not drawn that the vital and electro-magnetic forces are the same, but that the direction and relation of both forces are identical.* In speaking of the law of this double action Bullar used to say that he believed the principle, if strictly investigated, would be found to apply to the forces employed in the formation of cell-life in general. "That the galvanic force circulates is evident from the construction of the simple galvanic cell: the magnetic force accompanying the galvanic obeys the same law, circulating in a plane at right angles to the galvanic: both currents, therefore, circulating, that is, returning into themselves, a circular or cell-form arrangement of matter would necessarily result." These original investigations of Dr. Bullar are in no way affected by the subsequent researches of Professor Huxley into the true nature of cell-structure. His successful refutation of some of the leading points in the cell-theory of Schwann and Schleiden, and his championship of the elder doctrines of Hooke, Malpighi, and Caspar Friedrich Wolff, have

* *Provincial Med. Journal*, 1846.

nothing to do with Bullar's analogical reasoning on the directing powers of cell-life. It matters not to Dr. Bullar's position whether the "nucleus" in the animal is, or is not, the homologue of the "nucleus," or of the "primordial utricle" in the plant; or whether the terms "Periplast" and "Endoplast," shall replace the more familiar "cell-wall" and "nucleus." Professor Huxley says "Some cause, some force must rule the atoms, and determine their arrangement into cells and organs: there must be something, call it what you will—archæus, vis essentialis, vital force, cell force—by whose energy the vital phenomena in each case are what they are."* Again, another physiological writer says, "Any hypothesis which would abolish the idea of vital formative force would be much less reasonable and useful than that which admits it; indeed, unless we admit the existence of such a force in the processes of organic life, and adopt the language which the hypothesis suggests, it is hardly possible to express the ordinary facts of physiology."† Another physiologist in treating of vital actions in general shews that "in the first place the cell takes its origin from a *germ* which may be a minute *molecule*, that cannot be seen without a microscope of high power. This molecule appears in its earliest condition to be a simple homogeneous particle, of *spherical* form."‡ Bullar's object was to approach this subtle ground, which his predecessors had either stumbled at or avoided, and to supply the link that appeared to be wanting between the purpose of the original cause and the first manifestations of organic life: his reasoning went to point out *why* the cell is spherical. In doing this he was led by purely physiological speculation, and his conclusions were as far removed from the dangerous metaphysics of ontology as were those of any who went before or have succeeded him. It is certainly an evidence of its difficulty that no one seems to have taken up this subject since Bullar's investigations were first published. Even Rollett § and Schultze,|| in their interesting experiments on the

* *Medico Chir. Review*, Oct., 1853.

† *Kirkes and Paget's Physiology*, p. 34.

‡ *Carpenter's Manual of Physiology*, p. 17.

§ *Moleschott's Untersuchungen*, 1865.

|| *Max Schultze Archiv*, 1865.

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effect of electrical currents passed through blood corpuscles, do not touch Joseph Bullar's hypothesis.

For many years after the publication of these views the same ideas with a loftier aim haunted his imagination. In the chapter on "The spiritual tendencies of modern physical science," in the first edition of *Evening Thoughts*, published in 1850, he says, speaking of the cause that moves matter, "It is active power. It is galvanic force, magnetic force. It is therefore more akin to the *will* and to the Deity (whose essential characteristics are 'invisible power') than to matter."

"The mind that has been looking at the lightning as illuminated lines of electrical power: on the magnetic needle trembling to the North, as the sign only of a power constantly directed to that point of the earth: on all chemical actions as the same electrical power, acting on molecules, instead of in currents; diffused, instead of limited to lines returning into themselves: will have no difficulty in viewing all living organizations as outward signs of invisible power. What are those green leaves which luxuriantly clothe the summer earth but the beautiful signs of an unseen but most active force—the garment of the Invisible?"*

Before closing this part of the subject it must be recorded that as far back as the year 1847 Joseph Bullar made some experiments and drew some plans "on the elliptical form of the magnetic force" with a view to the elucidation of certain important questions in terrestrial magnetism. The experiments proved that common magnetism is circumferential in the same sense as electromagnetism (the illustrations must be seen to be understood); but as the question of elliptical form is a mathematical one, and is yet *sub judice*, it would have been unwise to have given the subject to the world with a mark of ambiguity about it. Nevertheless, the paper is a fair example, not only of the way in which he would extemporise a provisional theory, but of the pains he would take to work out his problem. It must not be supposed that it was Bullar's intention to claim for himself the discovery that the earth is a great natural magnet. That doctrine, now generally accepted, was originally an hypothesis of the celebrated

* *Evening Thoughts*, p. 141.

Dr. Gilbert, of Colchester, who lived in the beginning of the 17th century, and who is said in his Treatise *de Magnete* to have laid the foundation of the science of electricity. Bullar's experiments went to show the *form* which particles of matter would take when set in motion by the poles of the magnet.

The late Archbishop of Dublin, Dr. Whately, published, in the year 1855, a lecture on the origin of civilization, in which his Grace enlarges on a subject that Joseph Bullar had four years before touched with a delicate and characteristic hand. The object in both is to show that the original condition of Man is one of comparative civilization; but the distinct way in which each thinker treats the question is very interesting. The Archbishop, after his own lucid and conclusive fashion, describes primeval Man as having received at first some immediate Divine communication—he affirming that civilization has always been introduced from *without*, and that it has not grown up among a people from *within*, and that the freedom and simplicity enjoyed by Man in a wild state exist only in the fictions of romance. Bullar also takes the Mosaic history in support of his proposition; but when he comes to give an illustration on his side as against the French philosophers of the last century, who asserted that Man was created an untaught savage, he is not content to state the bare facts alone. He goes on to show what glorious results in the cause of civilization have followed the failure of the philosophers to establish their point. He writes:—"At this juncture a wild man was found in the forests of Aveyron, and brought to Paris as a prize. Here was the hypothetical Adam to be trained into a civilized man. Itard, a French physician, undertook his education, and adapted his plans according to the first metaphysical theory we have mentioned—that the mind is the product of the senses, and that education consists in impressing the outward world on the senses. Itard failed in his attempt altogether. But his failure led his pupil Séguin, to the successful education of idiots. He saw why Itard failed; for he was convinced that the mind was not a mere blank sheet of paper to be written on from without, but was a spiritual organism, with its own powers of will, intellect, and conscience, and that the essence

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of education lay in rousing this conscience, intellect, and will to spontaneous action. As soon as he had excited the idiot to perform one spontaneous act which denoted reflection he found that the greatest difficulty was vanquished. He roused the dormant power by means of the senses, but did not confound the senses with the mind. His success has been great."*

In 1861 Joseph Bullar printed, but did not then publish, his reflections and experiments "On the Presence of Iron in the Sun's Rays." The experiments were mostly made in the years 1858 and 1859, and were suggested by phenomena that had incidentally been brought to light during the progress of the young science of photography. Professors Kirchhoff and Bunsen, of Heidelberg, had inferred the existence of iron in the sun by examining the spectrum through telescopes, though (according to Professor Roscoe) they had no intention of suggesting that the metal existed in the light itself—a fact which Bullar's experiments went to prove.

In the same year, 1861, after his election as first President of the Southampton Microscopical Society, he delivered an address at the first meeting, which was published at the request of the society. In this address, after enlarging on the use of the microscope by those engaged in the study and practice of medicine, he commends the instrument to all who have "the world before them where to choose" their field of amusement; and in speaking of the social aspect of the society he says:—"It is a pleasant way of spending an evening where there is a scientific object of natural interest, and at the same time a social gathering of many having the same tastes and objects, and therefore the same sympathies. The anatomy of an insect is a more harmless occupation than the minute dissection of a neighbour's natural history."†

Joseph Bullar was an enthusiast about flowers: their intrinsic beauty, their botanical value, and their interesting culture. Not long since he published, in the ninth volume of the *Transactions of the Botanical Society*, an elaborate paper "On the Numerical Law of Flowers," accompanied by a chart that must have cost him immense labour and time. When he was a student he

* *Evening Thoughts*, p. 9.

† *Address*, p. 10.

obtained two prizes for botany—one in Edinburgh and one at the London University. On one of these occasions he competed for the prize with a gentleman who afterwards became celebrated as a botanist, and Bullar used to tell the story of his success, seemingly against himself, when condemning (as was his wont) the reckless system of competitive examinations: he would say, "The fact of a mere book botanist carrying off the prize from one who was destined afterwards to make a great reputation for himself as a professor of the science is, to my mind, an evidence not to be doubted that the prize-giving system at our great schools, as now administered, is a mistake."

Mention has been made of Joseph Bullar's love and true appreciation of art. His friend, Mr. C. F. Williams, the painter, writing now of Bullar's admiration of nature and his skill in art criticism, says, "I think it very characteristic, that even in this, his affectionate nature shewed itself very remarkably. He was capable of deep enjoyment from grand scenes in nature, and equally from pictures of grand subjects. I have often seen this when he was looking at drawings of North Wales scenery; but when, after looking at these, I have put a simple Southampton sketch before him, particularly if it had Southampton Water in it, his whole face lighted up and he looked *lovingly* at it. His instinct made him a sound critic, and his close and constant observance of nature made his criticisms most valuable. Cleverness merely, dexterous workmanship, dash and powerful contrasts of colour, or light and shadow, points that catch and *content* many persons, even of much cultivation, appealed in vain to him, if there was nothing more than this. If a picture had no heart put into it, no matter how fine the subject or masterly the treatment, it could give him no pleasure. I think he had the same undefinable shrinking from it that one feels in the presence of a beautiful and accomplished, but heartless person."

Joseph Bullar was very much in the habit of making immediate notes of thoughts which struck him and which he deemed of importance. His commonplace books are very numerous. Among his unpublished MSS. are papers on "Genesis, chap. I., corresponding with science;" "On the co-relation of the physical and vital forces in their relation to the mind;" "On John

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Hunter's theory of life." There are many papers on metaphysical subjects, and copious notes of cases taken during his young days of practice. At the time of his last illness he was contemplating an early publication of some of his MSS. under the following title:—"On some of the mental aspects of the nervous temperament, especially in reference to the Christian life, with short essays, meditations and reflections from the note-book of a physician"—*Thoughts of a Physician: being the Second Series of Evening Thoughts,* in one volume, was published in 1868.

It may be said of Joseph Bullar that he possessed in an eminent degree the rare gift of the scientific imagination—a gift which, had he followed in life the professorial instead of the practical path of his profession, would have made him illustrious among modern physiologists. As it is, he has left behind him quite enough to shew what may be done by a man, in his few spare hours, towards interpreting the obscure laws of nature, who is governed by unity of purpose, while his reasoning powers are directed by variety of taste and of intellectual culture. They who only see in the designs of the imaginative philosopher the "airy nothings" of the visionary, or the poetical license of the transcendentalist, and would condemn the use of the hypothesis under all circumstances as an attempt to supplant exact inquiry by unwarrantable assumption. Such persons should be reminded that Sir Isaac Newton used the hypothetical method freely in his discoveries. He began by assuming that the force which deflects a planet from its course, and compels it to describe a curve is a force tending directly towards the sun. The hypothesis ultimately became a law, established by deduction, from well ascertained laws of Kepler. There may at present be no sufficient grounds for affirming that the laws which direct living force are identical with those which have been proved to exist in electro-magnetic action; but the attempt to approach the question from the analogical side is an example, and a perfectly unobjectionable one, of the scientific hypothesis.

There is a little book called "The practice of the presence of God in the Conversations and Letters of Brother Lawrence," which was a favorite and constant companion of Joseph Bullar.

Both he and Brother Lawrence seem to have had their moral sense elevated by contemplating and reflecting on the "daily miracles of nature." In Bullar's case early communion with the things of the outside world, and an earnest worship of the God of physical life, had produced a creative feeling in his mind—he does not appear to have been oppressed by any abstract conceptions of natural objects—he enjoyed beauty, and "in the silent looks of happy things" he cherished the desire to penetrate their ways. He would not lead the Satyrs home—

"Young Satyrs, tender hoofs, and ruddy horn'd." *

The Dryads and Fauns of his imagination are chronicled in the sublime musings of his "*Evening Thoughts*." Nature had taught him "the lesson deep of love." Then

What Soul was his, when, from the naked top
Of some bold headland, he beheld the sun
Rise up and bathe the world in light! He looked—
Ocean and earth, the solid frame of earth
And ocean's liquid mass, in gladness lay
Beneath him. Far and wide the clouds were touched,
And in their silent faces could be read
Unutterable love. Sound needed none,
Nor any voice of joy: his spirit drank
The spectacle—sensation, soul, and form
All melted into him—they swallowed up
His animal being; in them did he live,
And by them did he live—they were his life.
In such access of mind, in such high hour
Of visitation from the living God,
Thought was not—in enjoyment it expired.
Rapt into still communion, that transcends
The imperfect offices of prayer and praise,
His mind was a thanksgiving to the power
That made him—it was blessedness and love! †

Joseph Bullar has been chosen three times to fill the President's chair of the Southampton Medical Society, and has always entertained a warm interest in the progress and welfare of that union, not only contributing papers of value which he read at the meetings of the Society, but giving dignity to the Institution by the weight of his own moral and professional character.

There is a passage in the second series of *Evening Thoughts* that supplies a key to the motives which governed Joseph Bullar's mind, in his ever seeking to advance and enlarge the interests and usefulness of the Infirmary. He says "When looking, with that

* *Landor's Silenus*.

† *Wordsworth's Excursion*, Book I.